



IBD and Pregnancy

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Objectives

- ◆ Discuss fertility, preparation of the patient for pregnancy, monitoring and post partum issues in patients with inflammatory bowel disease.

Talk to *YOUR* patients!

Open discussions between patients and physicians are key to laying a solid foundation for a successful pregnancy in patients with Inflammatory Bowel Disease

Fertility

Most women with IBD have normal fertility rates

Infertility 7% -12%

- ◆ Ovarian and tubal scarring
- ◆ Surgery and adhesions
- ◆ Colectomy and ileoanal anastomosis three fold increase risk for infertility

IPAA and Infertility

- Meta analysis with 8 studies included

- RR of infertility

15% for medically treated UC

48% after IPAA

Colectomy with ileorectal anastomosis to preserve female fertility

Higgins Gut 2006
Mortier Gastroent Clin Biol 2006

Genetics

Not simple Mendelian genetics!

Gene vs. Gene expression

IBD transmission to offspring is low



Orholm AJG 1999

Voluntary Childlessness

- ◆ Fear of pregnancy
- ◆ Not healthy enough to carry child
- ◆ Fear of birth defects
- ◆ Fear of passing the disease to children

Dubinsky IBD 2008

Influence of IBD on Pregnancy Outcomes

Active disease at the time of conception
–associated with preterm delivery
–associated with higher rate of fetal loss

Nielsen Scand J Gastroenterol 1983
Morales Hepatogastroenterol 2000
Norgard Am J Gastroenterol 2007

Effects of IBD on Pregnancy

Predictors of adverse outcomes by category

	Conception Outcome (OR)	Pregnancy Outcome (OR)	Pregnancy Complication (OR)
IBD	1.65	1.54	1.78
UC	2.78	1.48	1.51
CD	2.53	1.40	2.33
Non-Caucasian	2.42	2.90	1.95

Mahadevan Gastroenterology 2007

Effects of IBD on Pregnancy

Women with IBD in this population representative cohort had a higher risk of adverse outcomes associated with pregnancy than their aged matched controls. The risk of adverse outcomes in a community setting was independent of disease activity or medical treatment

Mahadevan Gastroenterology 2007

IBD and Pregnancy Outcomes

Meta-analysis: 12 studies 1986-2005
3,907 patients; 320,531 patient controls

	OR
Low birth weight	2.10 (1.38 - 3.19) *
Premature	1.74 (1.14 - 2.65) **
Cesarean section	1.58 (1.35 - 1.84) **

* Effect all from CD, no increase risk for UC
** Consistent findings through sensitivity analysis

Cornish Gut 2007

IBD and Pregnancy Outcomes

- ◆ Quiescent Disease prior to conception
- ◆ ? 3-6 months of inactive disease prior to conception
- ◆ Active disease at the time of conception will often continue throughout pregnancy and afford higher of risk complications

IBD Medications and Pregnancy

- ◆ Continue maintenance medications throughout conception and pregnancy but this means individualized information and therapy!
- ◆ Methotrexate and thalidomide do increase risk of congenital malformation and should be stopped prior to conception



Greatest risk to pregnancy is active disease, not active therapy!

Placental Transfer

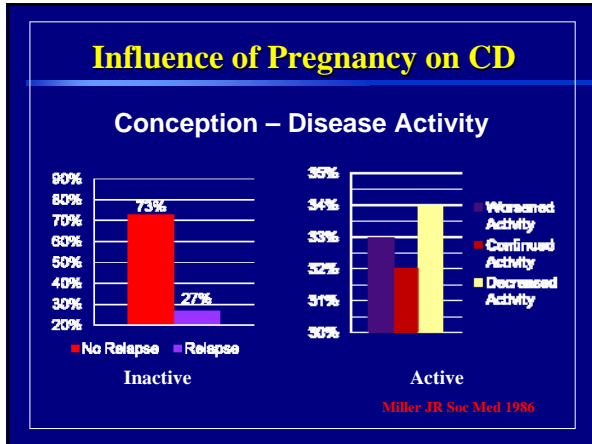
Minimal Transfer of IgG during first trimester
Increasing transfer during 2nd and 3rd trimesters
IgG1 greater than IgG 2-4
?Infliximab and adalimumab during 3rd trimester
And other biologics

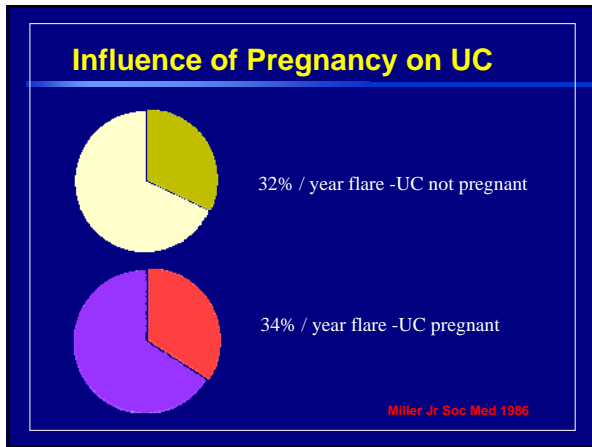
Kane AJG Jan 2009

Does Pregnancy change course of IBD?

European cohort- 10 yr follow
580 pregnancies-177 after IBD dx
Rate of spontaneous AB higher after dx
C section rate higher after IBD dx
Rate of relapse decreased following pregnancy in both UC and CD

Riis Am J Gastro 2006





Monitoring and Evaluation during Pregnancy

- High Risk OB or knowledgeable OB
- Disease Activity monitoring by GI

Note! Remember physiology:
Normal drop in Hgb and albumin
Rise in ESR

Avoid CT Scans or use shields if needed
MRI, U/S safe

Monitoring and Evaluation during Pregnancy

- ◆ No increase in premature labor induced by flexible sigmoidoscopy
- ◆ Endoscopy only if clinically mandated

Cappell Dig Dis Sci 1996

Delivery Mode

Retrospective study – CD
18% developed perianal disease after delivery
most associated with extensive episiotomy

Ilnyckyj Am J Gastroenterol 1999

Delivery Mode

- Increased incidence of C section in women with IBD
- Vaginal delivery usually considered safe for women with inactive perianal symptoms
- Encourage OB to use C section if needed for baby, not just because patient has IBD

Postpartum Issues: Nursing

- ◆ Prolactin upregulates TNF production
- ◆ RA – breastfeeding increase risk for disease activity
- ◆ IBD – only 44% breast fed (55/122)
- ◆ Flare of Disease-23/55 - 43%
- ◆ Disease activity associated with medication cessation, not nursing alone

Kane Am J Gastroenterol 2005

Post partum Issues


- ◆ Changes in hormone levels
- ◆ Changes in cytokines
- ◆ Discontinuation of medications
- ◆ Resumption of smoking

Kane Am J Gastroenterol 2005

Safety of Medications During Breastfeeding

Medication	Recommendations
Azathioprine/6-mercaptopurine	Limited human data, but suggests minimal transfer to the infant
Balsalazide	No human data: potential diarrhea
Ciprofloxacin	Limited human data: probably compatible
Corticosteroids	Compatible
Cyclosporine	Limited human data: potential toxicity
Fish oil supplements	No human data
Mesalamine	Limited human data: potential diarrhea
Methotrexate	Contraindicated
Metronidazole	Limited human data: potential toxicity
Olsalazine	Limited human data: potential diarrhea
Rifaximin	Safety unknown
Sulfasalazine	Limited human data: potential diarrhea
Tacrolimus	Limited human data: potential toxicity
Thalidomide	No human data: potential toxicity

Dubinsky IBD 2006



Summary

- ◆ Most women with IBD have normal fertility.
- ◆ Remission at time of conception and maintaining remission throughout pregnancy are good, prognostic indicators for successful pregnancy.
- ◆ Cesarean section should be mandated by obstetrical reasons unless active perianal disease.
- ◆ Risk is low for passing IBD to offspring.
